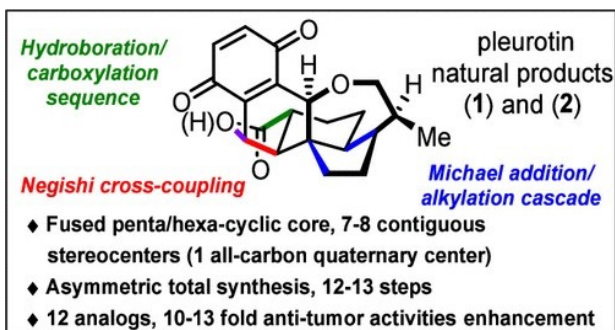


Concise Asymmetric Total Syntheses of (+)-Dihydropleurotinic Acid and (-)-Pleurotin, Enabling Rapid Late-Stage Diversification

Bin Huang*, Jing Pang, Nan Cao, Ya-Shuang Dai, and Ya-Qiu Long*
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fungals metabolites
 benzoquinone meroterpenoids

1 and 2 are readily interconverted in vivo through oxidation

delivered from the chiral pool (R)-Roche ester

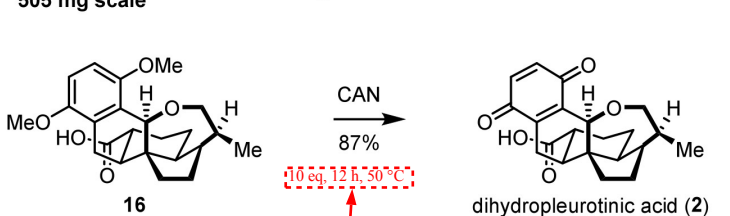
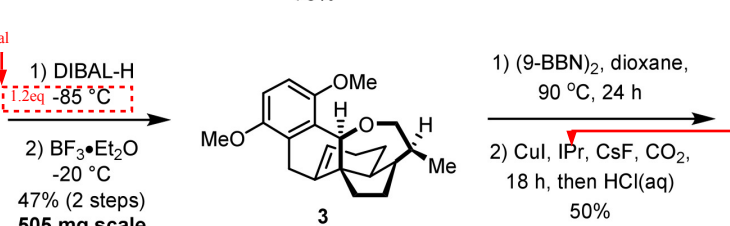
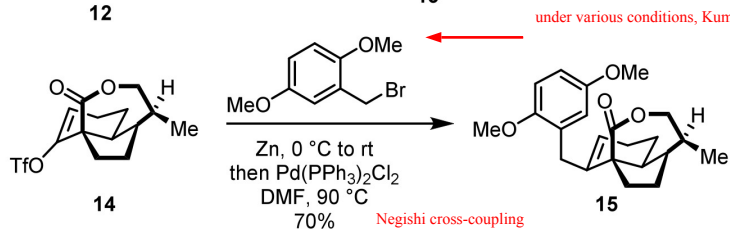
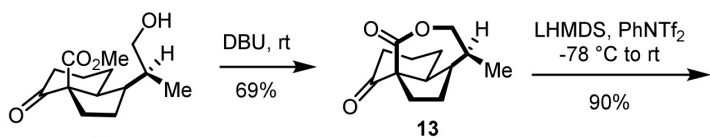
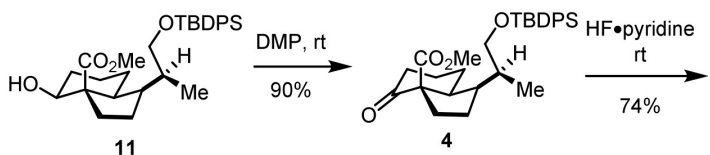
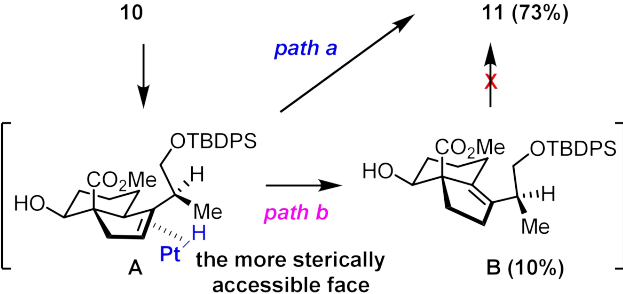
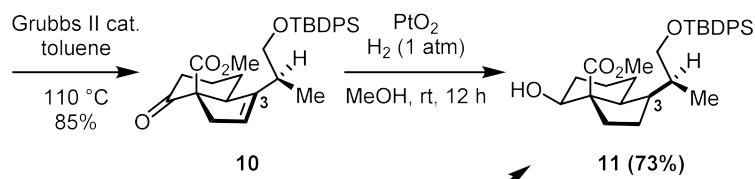
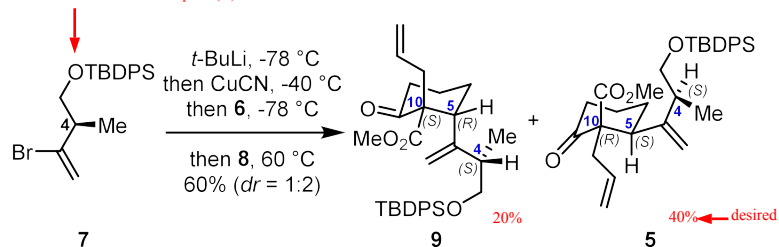
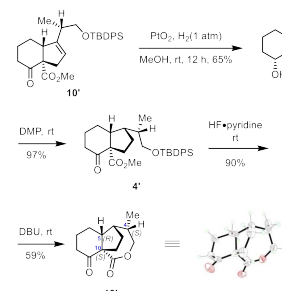


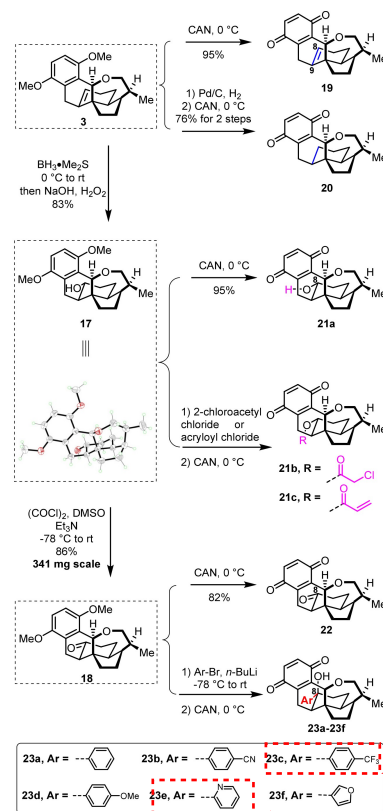
Table 1. Stereoselective reduction of olefin 10 to 11

Entry	Catalyst	Cat. equiv	Solvent	Time (h)	Temperature (°C)	Isolated Yield(%)	
						11	B
1	Pd/C	0.2	THF	12	25	0	0
2	Pd/C	0.2	MeOH	12	25	0	40
3	Pd/C	1.5	MeOH	12	25	0	90
4	Wilkinson	1.0	MeOH	12	25	0	0
5	Wilkinson	1.0	toluene	12	25	0	0
6	Crabtree	1.0	CH2Cl2	6	25	0	59
7	PtO2	1.0	THF	12	25	0	0
8	PtO2	0.2	MeOH	12	25	0	11
9	PtO2	1.0	MeOH	12	25	0	20
10	PtO2	2.2	MeOH	12	25	35	37
11	PtO2	2.2	MeOH/EtO	12	25	73	10
12	PtO2	2.2	MeOH/EtO	6	50	20	40



Scheme S1. Chemical transformation of 9 to 13'

Scheme 4. Late-Stage Diversification of Pleurotin with Respect to the C8 Substitution on the Pentacyclic Core Scaffold



antiproliferative activities against the TrxR-1 overexpressed human breast

promising lead

10 eq, 12 h, -50 °C

pivotal

dihydropleurotinic acid (2)